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10/539,667	03/10/2006	Taisuke Matsumoto	MAT-8703US	4670

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EXAMINER	
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2146	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,667	MATSUMOTO ET AL.	
	Examiner	Art Unit	
	Sulaiman Nooristany	2146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/14/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

This Office Action is response to the application (10/539667) filed on 03/10/2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shigehashi** JP Patent App. Publication No. **JP-2003046539** in view of **Blankenship** U.S Patent App. No. **US 2007/0264971**

Regarding claims 1 and 2, Shigehashi teaches wherein an inter-router adjustment method **(router of a static configuration [0002])**, the method comprising:

requesting router status information of router devices belonging to a common sub-network **(LAN – [0003])** of a respective router device **(VRRP, hello packet is exchanged at a certain interval between the routers to check whether each router is in the normal state – [0005]; Fig. 6 – router 71 & 72)**;

acquiring the router status information **(health check – [0005])** and calculating priorities **(equation 1-2 "calculating priorities" – [0039])** to decide whether the respective router device is to have an operational status in which the respective router

device is placed in operation based on the router status information **(Each router compares said priority with its own priority to determine which router is the active router (master router) that should process the packets – [0005]; Fig. 6, router 71 & 72)**,

deciding a first router device belonging to the common sub-network that is operational and a second router device to be placed in a standby status, according to the calculated priorities **(the router with the highest priority is automatically set as the active router, while other routers are used as standby routers (backup routers) – [0005]).**

With respect to claims 1 and 2, Shigehashi does not explicitly teach "*the router status information including at least line status information indicating a status of the physical link to the respective router device so that the router devices belonging to the common sub-network operate as one virtual router device.*"

Blankenship teaches that its well known wherein the router status information including at least line status information indicating a status of the physical link to the respective router device **(coupling the routers to a single physical link – [0005])** so that the router devices belonging to the common sub-network operate as one virtual router device **(Fig. 2, unit 300a & 300b).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shigehashi's invention by using a method for router redundancy in a local area network and or in a wide area network that allows both a primary and a backup router to share a single backhaul link from a base transceiver site

selecting an active router in a communication device includes providing multiple routers in the device, coupling the routers to a single physical link, determining a performance parameter for each of the routers, and selecting one of the routers as an active router by positioning a relay of the router, as taught by Blankenship.

Regarding claims 3 & 20, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 1, as described above. Shigehashi further teaches wherein a step of adjusting the priorities between or among **(plurality)** the router devices depending upon a significance of the router status information **(the relation of PRI (1-1) >PRI (2-1) again as a result of the rise of CPU activity ratio of a routers – [0054])**.

Regarding claims 4 & 21, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 1, as described above. Shigehashi further teaches wherein a request for the router status information is periodically made based on the information request step **(health check – [0005])**.

Blankenship further teaches **(route processor 304 periodically updates a performance parameter for the router 300 to reflect changes – [0043]).**

Regarding claims 5 & 22, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 1, as described above. Shigehashi further teaches wherein a request for the router status information is made according to a request from a communication device including the router devices connected to the

common sub-network **(Fig. 6)**.

Regarding claims 6 & 23, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 1, as described above. Shigehashi further teaches wherein the calculating the priorities **(equation 1-2 – [0039])** is made when there is a change in the router status information acquired **(Fig. 6, router 71 & 72)**.

Regarding claims 7 & 24, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 1, as described above. Shigehashi further teaches wherein the router status information further includes at least one of a processing burden or a remaining battery capacity of the respective router device **(processing burden – [0055])**.

Regarding claim 8, Shigehashi and Blankenship together teaches wherein router priority calculation device **(Shigehashi; priority is calculation from the CPU activity [0061])**, comprising:

a router information gathering section for gathering router status information of router devices belonging to a common sub-network **(see above rejection claim 1-2)**; a priority calculating section for calculating priorities to decide deciding a router device that is to become operational based on the router status information including at least line status information indicating the status of the physical link to the respective router device so that a plurality of router devices of the common sub-network operate virtually

as one router device **(see above rejection claim 1-2)**; and

a priority notifying section for notifying the priorities calculated for the router devices respectively to the router devices of the common sub-network **(Blankenship; Fig. 4, unit 416 – Notify Network Component About Switch)**

Regarding claim 9 and 15, Shigehashi and Blankenship together teaches wherein router priority calculation device **(Shigehashi; priority is calculation from the CPU activity [0061])**, comprising:

a router information gathering section for gathering router status information of the router devices belonging to a common sub-network **(see above rejection claim 1-2)**;

a priority calculating section for calculating priorities to decide a router device that is to become operational based on the router status information including at least line status information indicating the status of the physical link to the respective router device so that a plurality of router devices of the common sub-network operate virtually as one router device **(see above rejection claim 1-2)**;

a master deciding section for deciding a first router device that is to become operational and a second router device that is to be placed in a standby status, according to the calculated priorities **(see above rejection claim 1-2)**; and

a master notifying section for notifying information identifying the decided first and second router devices thereto **(Blankenship; Fig. 4, unit 416 – Notify Network**

Component About Switch).

Regarding claims 10 & 25, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 8, as described above. Shigehashi further teaches wherein the router information gathering section has a comparing section for comparing the router status information newly acquired with existing router status information **(the router with the highest priority is automatically set as the active router, while other routers are used as standby routers (backup routers) – [0005])**, to instruct the priority calculating section to re-calculate a priority when the comparing section detects a difference in the router status information **(If the master router is unable to carry out communication due to trouble or other reason, other backup routers will detect that the master router does not respond to the hello packet. Among the backup routers, the one with the highest priority is set to the next master router having the same IP address as said master router – [0006])**.

Regarding claims 11 & 26, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 8, as described above. Shigehashi further teaches wherein the router information gathering section has an information request section for requesting the router status information to the router device **(Fig. 2, express the flow of the process in which it is started when one certain router receives a halo packet from other routers – [0057])**.

Regarding claims 12 & 27, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 11, as described above. Shigehashi further teaches wherein the router information gathering section has a timer **(Fixed time amount which measures a CPU activity ratio can be to some extend as a long time for 2 second, 5 second, etc – [0047])**, the information request section requesting the router status information when receiving a time-up notification from the timer **(The timing which compress a priority between routers has the desirable timing (usually 1-second spacing) which receives a halo packet in VRRP [0045])**.

Regarding claims 13 & 28, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 11, as described above. Blankenship further teaches wherein the router information gathering section further includes an update request receiving section for receiving an update request for the priority from a communication device including the router devices connected to the common sub-network, the update request receiving section, when receiving the update request, making a notification to the information request section whereby the information request section requests the router status information to the router device **(route processor 304 periodically updates a performance parameter for the router – [0043])**.

Regarding claims 14, 29, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 18, as described above. Blankenship further teaches wherein the router status information further includes at least one of, a

processing burden or a remaining battery capacity of the respective router device **(processing burden – [0055])**.

Regarding claims 16, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 15, as described above. Shigehashi further teaches wherein the status notifying section forwards periodically the router status information onto the common sub-network **(health check – [0005])**.

Blankenship further teaches **(route processor periodically updates a performance parameter for the router to reflect changes – [0043]).**

Regarding claims 17, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 15, as described above. Blankenship further teaches wherein an information request receiving section for receiving a request for the router status information, to forward the router status information onto the common sub-network depending upon the request the status notifying section received **(Fig. 4, unit 416 – Notify Network Component about Switch)**

Regarding claims 18, Shigehashi and Blankenship together taught an inter-router adjustment method according to claim 15, as described above. Blankenship further teaches wherein a status monitor section for monitoring a change in the router status information, the status monitor section, when detecting a change in the router status information, making a notification to the information notifying section whereby the

information notifying section forwards a latest router status information onto the common sub-network **(Fig. 4, unit 408 – Monitor For Information From Other Router).**

Claim 19 has the similar limitation as those claims 1, 2 & 15; therefore, it's rejected under the same rationale as in claim 1, 2 & 15.

Regarding claims 31, Shigehashi and Blankenship together taught the method according to claim 1, as described above. Blankenship further teaches wherein the line status information indicates at least one of: (i) a transmission speed of the physical link **(health score/bandwidth – [0046])**, (ii) an error condition for the physical link **(failure or reduction – [0046])**, or (iii) a degree of congestion on the physical link, the physical link being different from any router device **([0046]).**

Claim 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shigehashi** JP Patent App. Publication No. **JP-2003046539** in view of **Blankenship** U.S Patent App. No. **US 2007/0264971** and further in view of **Odaohhara** U.S Patent App. No **US 2002/0144160.**

Regarding claims 30, Shigehashi and Blankenship together taught the method according to claim 1, as described above. However, Shigehashi and Blankenship are silent about the *"battery capacity information."*

Odaohhara teaches wherein the line status information further includes battery capacity information that indicates a remaining battery capacity of the respective router device such that the calculated priorities are based on the line status information and the remaining battery capacity of the respective router device **(FIG. 5 shows a flowchart of the processes of a battery capacity information compensating program executed by the CPU).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shigehashi's and Blankenship's invention by utilizing a process for battery capacity information in a CPU, which can be used as an electric power unit for a computer (switch/gateway/router) is provided with a memory that stores capacity information denoting the total capacity of a battery and compensation information representing the total capacity of the battery as a function of a battery charging cycle count. In addition the battery monitor circuit outputs remaining battery capacity information to the signal line and monitors a voltage on a power line to calculate the remaining battery capacity, as taught by Odaohhara.

Response to Amendment

Applicant's arguments with respect to claim(s) 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is 571-270-1929. The examiner can normally be reached on Monday Through Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Pwu can be reached on 571-272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Sulaiman Nooristany 12/05/2007**

JEFFREY PWU
SUPERVISORY PATENT EXAMINER